scanning messages. In connection with transmitting the scanning messages, e.g. conventional scanning messages such as a periodic beacon frame or a probe response responding to a pending probe request and the additional scanning messages triggered by the transmission rate monitor circuitry **14**, the capacity controller circuitry may be configured to carry out the procedure of FIG. **7**. As a result, the capacity controller circuitry **15** may configure the control part **12** to transmit an appropriate type of scanning message, e.g. a normal or a shortened scanning message, and to insert into the scanning message appropriate information recommending one or more access points to provide a terminal device or terminal devices with the wireless access services.

[0055] The circuitries **12** to **18** of the communication controller circuitry **10** may be carried out by the one or more physical circuitries or processors. In practice, the different circuitries may be realized by different computer program modules. Depending on the specifications and the design of the apparatus, the apparatus may comprise some of the circuitries **12** to **18** or all of them.

[0056] The apparatus may further comprise a memory **20** storing computer programs (software) configuring the apparatus to perform the above-described functionalities for maintaining the transmission rate of the scanning messages. The memory **20** may also store communication parameters and other information needed for the wireless communications, e.g. the different time intervals the timer is configured to count, the rules for selecting the type of the transmitted additional scanning messages, and any relevant operational parameters of the access point(s). The apparatus may further comprise input/output (I/O) components **22** providing the apparatus with communication capabilities. In an embodiment, the I/O components **22** comprise radio interface components **22** providing the apparatus with radio communication capability with terminal devices, access points, and/or the server. The radio interface components may comprise standard well-known components such as amplifier, filter, frequency-converter, (de)modulator, and encoder/decoder circuitries and one or more antennas. In another embodiment, the I/O components **22** provide the apparatus with wired communication capability to communicate with access points and the server.

[0057] In an embodiment, the apparatus carrying out embodiments of the invention in the apparatus comprises at least one processor and at least one memory including a computer program code, wherein the at least one memory and the computer program code are configured, with the at least one processor, to cause the apparatus to carry out the above-described functionality for maintaining the transmission rate of the scanning/enabling messages, as described above in connection with FIGS. **2** to **7**. Accordingly, the at least one processor, the memory, and the computer program code form processing means for carrying out embodiments of the present invention in the apparatus monitoring and maintaining the transmission rate of the scanning/enabling messages.

[0058] As used in this application, the term 'circuitry' refers to all of the following: (a) hardware-only circuit implementations such as implementations in only analog and/or digital circuitry; (b) combinations of circuits and software and/or firmware, such as (as applicable): (i) a combination of processor(s) or processor cores; or (ii) portions of processor (s)/software including digital signal processor(s), software, and at least one memory that work together to cause an apparatus to perform specific functions; and (c) circuits, such as a microprocessor(s) or a portion of a microprocessor(s), that require software or firmware for operation, even if the software or firmware is not physically present.

[0059] This definition of 'circuitry' applies to all uses of this term in this application. As a further example, as used in this application, the term "circuitry" would also cover an implementation of merely a processor (or multiple processors) or portion of a processor, e.g. one core of a multi-core processor, and its (or their) accompanying software and/or firmware. The term "circuitry" would also cover, for example and if applicable to the particular element, a baseband integrated circuit, an application-specific integrated circuit (ASIC), and/or a field-programmable grid array (FPGA) circuit for the apparatus according to an embodiment of the invention.

[0060] The processes or methods described in FIGS. **2** to **7** may also be carried out in the form of a computer process defined by a computer program. The computer program may be in source code form, object code form, or in some intermediate form, and it may be stored in some sort of carrier, which may be any entity or device capable of carrying the program. Such carriers include transitory and/or non-transitory computer media, e.g. a record medium, computer memory, read-only memory, electrical carrier signal, telecommunications signal, and software distribution package. Depending on the processing power needed, the computer program may be executed in a single electronic digital processing unit or it may be distributed amongst a number of processing units.

[0061] The present invention is applicable to wireless communication systems defined above but also to other suitable communication systems. The protocols used, the specifications of wireless networks, their network elements and terminal devices, develop rapidly. Such development may require extra changes to the described embodiments. Therefore, all words and expressions should be interpreted broadly and they are intended to illustrate, not to restrict, the embodiment. It will be obvious to a person skilled in the art that, as technology advances, the inventive concept can be implemented in various ways. The invention and its embodiments are not limited to the examples described above but may vary within the scope of the claims.

1. A method comprising:

monitoring transmission of messages in a wireless network;

determining that a transmission rate of messages is not sufficient if the following conditions are true: detecting no message within a minimum transmission time interval and determining that a next target beacon transmission time is not within a predefined time interval after the expiry of the minimum transmission time interval; and

upon determining that the transmission rate of messages is not sufficient, causing an access point of the wireless network to transmit a scanning message.

2. The method of claim **1**, wherein the monitoring comprises monitoring transmission of scanning messages, wherein the transmission rate of messages is a transmission rate of scanning messages, and wherein it is determined that the transmission rate of scanning messages is not sufficient upon detecting no scanning message within the minimum transmission time interval.